WHAT IS CLAIMED IS:

- 1. An aqueous dispersion comprising water-insoluble vinyl polymer particles, wherein the particles contain C. I. Pigment Blue 15:4 as a colorant.
- 2. The aqueous dispersion according to claim 1, wherein the water-insoluble vinyl polymer is prepared by polymerizing a monomer composition comprising:
- (A) 0 to 45% by weight of a monomer A represented by formula (I):

$$\begin{array}{c}
R^{1} \\
| \\
CH_{2} = C - COO(CH_{2}CH_{2}O)_{m} - R^{2}
\end{array}$$
(I)

10

15

20

5

Į.

į

wherein R¹ is a hydrogen atom or a methyl group; R² is a hydrogen atom, an alkyl group having 1 to 20 carbon atoms or a phenyl group which may have an alkyl group having 1 to 9 carbon atoms; and m is a number of 1 to 30;

(B) 0 to 45% by weight of at least one monomer selected from the group consisting of:

a monomer B1 represented by formula (II):

$$\begin{array}{c|c}
R^1 & CH_3 \\
 & | \\
 CH_2 = C - COO(CH_2CHO) - R^2
\end{array}$$
(II)

wherein R¹ and R² are as defined above; and n is a number of 1 to 30, a monomer B2 represented by formula (III):

$$\begin{array}{c} R^{1} & \text{CH}_{3} \\ | \\ \text{CH}_{2} = C - \text{COO} - (\text{CH}_{2}\text{CH}_{2}\text{O})_{\overline{m}} + (\text{CH}_{2}\text{CHO})_{\overline{n}} - R^{2} \end{array}$$
 (III)

wherein R¹, R², m and n are as defined above, and oxyethylene group and oxypropylene group are added in a block or random form, and a monomer B3 represented by formula (IV):

5

10

15

20

weight.

$$\begin{array}{cccc}
R^{1} & CH_{3} \\
CH_{2} & CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2$$

wherein R¹, R², m and n are as defined above, and oxypropylene group and oxytetramethylene group are added in a block or random form;

- (C) 3 to 40% by weight of a monomer having a salt-forming group; and
- (D) 15 to 87% by weight of a copolymerizable monomer copolymerizable with the monomer A, the monomer B1, the monomer B2, the monomer B3 and the monomer having a salt-forming group, wherein the total content of the monomer A and the monomer B is at least 5% by
- 3. The aqueous dispersion according to claim 2, wherein the copolymerizable monomer comprises at least one monomer selected from the group consisting of an aromatic ring-containing monomer and a macromer.
- 4. The aqueous dispersion according to claim 3, wherein the aromatic ring-

containing monomer is at least one member selected form the group consisting of styrene, α -methylstyrene, vinyltoluene and vinylnaphthalene.

- 5. The aqueous dispersion according to claim 4, wherein the macromer is a styrenic macromer having a polymerizable functional group at one end.
 - 6. A water-based ink comprising the aqueous dispersion according to claim1.
- 7. The water-based ink according to claim 6, wherein the water-insoluble vinyl polymer is prepared by polymerizing a monomer composition comprising:
 - (A) 0 to 45% by weight of a monomer A represented by formula (I):

$$\begin{array}{c}
R^{1} \\
\downarrow \\
CH_{2} = C - COO(CH_{2}CH_{2}O)_{\overline{m}} - R^{2}
\end{array}$$
(I)

- wherein R¹ is a hydrogen atom or a methyl group; R² is a hydrogen atom, an alkyl group having 1 to 20 carbon atoms or a phenyl group which may have an alkyl group having 1 to 9 carbon atoms; and m is a number of 1 to 30;
 - (B) 0 to 45% by weight of at least one monomer selected from the group consisting of:
- a monomer B1 represented by formula (II):

5

$$\begin{array}{c|c}
R^1 & CH_3 \\
 & | \\
 CH_2 = C - COO(CH_2CHO)_{n} - R^2
\end{array}$$
(II)

wherein R¹ and R² are as defined above; and n is a number of 1 to 30, a monomer B2 represented by formula (III):

$$\begin{array}{cccc}
& & & \text{CH}_3 \\
& & & & | \\
& \text{CH}_2 & & \text{CH}_2 & \text{C$$

5

wherein R¹, R², m and n are as defined above, and oxyethylene group and oxypropylene group are added in a block or random form, and a monomer B3 represented by formula (IV):

$$\begin{array}{c|c}
R^{1} & CH_{3} \\
 & | \\
 CH_{2} = C - COO + CH_{2}CHO) + (CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}O) - R^{2}
\end{array} (IV)$$

10

wherein R^1 , R^2 , m and n are as defined above, and oxypropylene group and oxytetramethylene group are added in a block or random form;

- (C) 3 to 40% by weight of a monomer having a salt-forming group; and
- (D) 15 to 87% by weight of a copolymerizable monomer copolymerizable
 with the monomer A, the monomer B1, the monomer B2, the monomer B3 and
 the monomer having a salt-forming group,
 wherein the total content of the monomer A and the monomer B is at least 5% by
 weight.

20

8. The water-based ink according to claim 7, wherein the copolymerizable monomer comprises at least one monomer selected from the group consisting of

an aromatic ring-containing monomer and a macromer.

- 9. The water-based ink according to claim 8, wherein the aromatic ring-containing monomer is at least one member selected form the group consisting of styrene, α -methylstyrene, vinyltoluene and vinylnaphthalene.
- 10. The water-based ink according to claim 8, wherein the macromer is a styrenic macromer having a polymerizable functional group at one end.

10

5